



SHRIMATI INDIRA GANDHI COLLEGE

(Affiliated to Bharathidasan University)

Nationally Accredited at 'A' Grade (4th Cycle) by NAAC | An ISO 9001 : 2015 Certified Institution
Tiruchirappalli - 620 002

Name : Dr.T. Mahalakshmi
Designation : Assistant Professor
Department : PG & Research Department of Mathematics
Qualification : M.Sc., M.Phil., B.Ed., Ph.D.
Experience : Teaching: 13 Research: 5
Area of Specialization(s) : Number Theory
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Academic Qualifications

Degree	Branch	Institution / University Name	Year of Graduation
M.Phil	Mathematics	Bharathidasan University,Trichy.	2007
M.Sc	Mathematics	Shrimati Indira Gandhi College,Trichy.	2006
B.Sc	Mathematics	Seethalakshmi Ramaswamy College,Trichy.	2004

Research Publications

(Indexed)

International

1. S. Vidhyalakshmi, M.A. Gopalan, T. Mahalakshmi, “ On The Negative Pell Equation ”, International Journal of Engineering Sciences & ResearchTechnology(IJESRT), Volume7, Issue11,Pages50-56, November2018.

2. S. Vidhyalakshmi, M. A. Gopalan, T. Mahalakshmi, "A Study On The Hyperbola ", Global Journal Of Engineering Science And Researches (GJESR), Volume 6, Issue 2, Pages 61-65, February 2019.
3. S. Vidhyalakshmi, T. Mahalakshmi, "on the Negative Pell Equation ", International Journal For Research in Applied Science & Engineering Technology (IJRASET), Volume 7, Issue III, Pages 891-897, March 2019.
4. S. Vidhyalakshmi, T. Mahalakshmi, "A Study On The Homogeneous Cone ", International Research Journal of Engineering and Technology (IRJET), Volume 6, Issue 3, Pp 5000-5007, March 2019.
5. M. A. Gopalan, T. Mahalakshmi, K. Sevvanthi " On The Positive Pell Equation ", International Research Journal of Engineering and Technology (IRJET), Volume 6, Issue 3, Pages 1829-1837, March 2019.
6. M. A. Gopalan, T. Mahalakshmi, K. Radha, "on the Negative Pell Equation ", International Journal of Advanced Science and Research (IJASR), Volume 4, Issue 2, Pages 25-31, March 2019.
7. S. Vidhyalakshmi, T. Mahalakshmi, T. Priyalakshmi, " on the Negative Pell Equation ", EPRA International Journal of Multidisciplinary Research (IJMR), Volume 5, Issue 4, Pages 192-201, April 2019.
8. S. Vidhyalakshmi, T. Mahalakshmi, M. A. Gopalan, "Pythagorean Triangle With $2 \times AP$ as a Gopavidh number " International Journal of Research and Analytic Reviews (IJRAR), Volume 6, Issue 2, Pages 59i-63i, April 2019.
9. S. Vidhyalakshmi, T. Mahalakshmi, H. Ayesha Begum, A. Prathiba, M. A. Gopalan, "On Two Interesting Systems Of Triple Diophantine Equations With Five Unknowns", International Journal of Research and Analytical Reviews (IJRAR), Volume 6, Issue 2, Pages 637-645, June 2019.
10. S. Vidhyalakshmi, T. Mahalakshmi, V. Tamilselvi, V. Vidhya, M. A. Gopalan, "Observations On Two Special Pell Equations ", Journal Of Emerging Technologies and Innovative Research (JETIR), Volume 6, Issue 6, Pages 296-308, June 2019.
11. S. Vidhyalakshmi, T. Mahalakshmi, M. A. Gopalan, "Special Pythagorean Triangle In Relation With Pronic Numbers ", International Journal of Mathematics and Technology (IJMTT), Volume 65, Issue 8, Pages 166-169, August 2019.

12. S.Vidhyalakshmi,T.Mahalakshmi,M.A.Gopalan,“ Special Pythagorean Triangle with $2 \times \text{Area/Perimeter} \times \text{Hypotenuse} = \text{a leg as a Pronic number}$ ”, Adalya Journal , Volume 8, Issue 9, Pages 1052-1055, September 2019.
13. S. Vidhyalakshmi, T. Mahalakshmi, M.A. Gopalan, “ Construction Of Diophantine 3-Tuples Through 3D Numbers”, EPRA International Journal of Multidisciplinary Research(IJMR), Volume5,Issue 9,Pages 181-190, September 2019.
14. K.Meena,S.Vidhyalakshmi, T.Mahalakshmi,M.A.Gopalan, “On Pairs Of Rectangles And Trimorphic Numbers“, Infokara Research, Volume8,Issue9,Pages158-171,October2019.
15. S. Vidhyalakshmi, T. Mahalakshmi, M.A. Gopalan,“A Special Dio-Quintuple With Property D(2)”,JournalOfScientificComputing,Volume8,Issue10,Pages11-12, October2019.
16. S.Vidhyalakshmi,T.Mahalakshmi,K.Sridevi,“ On the Ternary Biquadratic Equation ”, Journal of Interdisciplinary Cycle Research , Volume 11, Issue 11, Pages 338-348, November 2019.
17. S. Vidhyalakshmi, T. Mahalakshmi, J. Shanthi, M.A. Gopalan, “ On Two Interesting Systems Of Diophantine Equations “,Journal Of Interdisciplinary Cycle Research,Volume11,Issue 11, Pages 692-695, November2019.
18. K. Meena, S. Vidhyalakshmi, T. Mahalakshmi, M.A. Gopalan, “ On Pairs Of Rectangles and Gopa – Vidh Numbers”, International Journal Of Engineering Sciences and Research(IJESRT),Volume8,Issue 12,Pages63-72,December2019.
19. S.Vidhyalakshmi, T.Mahalakshmi, S.AarthyThangam, M.A. Gopalan,“ On The Double Equations ”, Journal of Xi’ an University of Architecture and Technology, Volume XII, Issue II, Pages 1357-1362, February 2020.
20. S. Vidhyalakshmi, T. Mahalakshmi, M.A. Gopalan,“ Observations On Non-homogeneous Biquadratic with Four unknowns $10xy + 7z^2 = 7w^4$ ”, Science, Technology and Development, Volume IX, Issue III, Pages 14-18, March 2020.
21. S. Vidhyalakshmi, T. Mahalakshmi, M.A. Gopalan, S. Shanthia, “ Observations On The Homogeneous Ternary Quadratic Diophantine Equation With Three Unknowns $y^2 + 5x^2 = 21z^2$ ”, Journal of Information and Computational Science, Volume 10, Issue 3, Pages 822-831, March 2020.
22. S.Vidhyalakshmi, T.Mahalakshmi, M.A.Gopalan,“On Dual Equations ”, AEGAEUM

23. S. Vidhyalakshmi, T. Mahalakshmi, M.A. Gopalan, K. Sridevi, “ Observations OnThe Integer Solutions Of The Pell – Like Equation $9x^2 - 7y^2 = 8$ ”, Compliance Engineering Journal, Volume 11, Issue3, Pages 467-488, March2020.

24. J.Shanthi,T.Mahalakshmi,V.Anbuvali,M.A.Gopalan,“On FindingInteger SolutionsToTheHomogeneousCone $7x^2 + 5y^2 = 432z^2$ ”,AEGAEUM Journal,Volume8,Issue 4, Pages744-749, April 2020.

25. J.Shanthi, T.Mahalakshmi, M.Revathi, M.A.Gopalan, “A Study On The Triple ”,
26. J.Shanthi,T. Mahalakshmi,N.Umamaheswari, M.A.Gopalan,“ A Study On The Hyperbola ”, Alochana Chakra Journal , Volume IX, Issue IV, Pages 3879-3895, April2020.

27. S. Vidhyalakshmi, J. Shanthi, T. Mahalakshmi, M.A. Gopalan, “ A Classification of Rectangles in Connection with Fascinating Number Patterns”, International Journal of Science and Research Methodology, Volume15, Issue2, April2020.

28. S. Mallika, V. Praba, T. Mahalakshmi, “Observations On Homogeneous Bi-Quadratic Equation with Five unknowns”, Alochana Chakra Journal, Volume IX, Issue V, May2020.

29. S.Vidhyalakshmi,T.Mahalakshmi,M.A.Gopalan,”OnTheTranscendentalEquation”, International Journal of Recent Engineering Research and Development (IJRERD), Volume 05, Issue 06, June 2020.

30. S. Vidhyalakshmi, J. Shanthi, T. Mahalakshmi, M.A. Gopalan, “ A Classification ofRectanglesinConnectionwithTwoFascinatingNumberPatterns”,InternationalJournalof AdvancedScienceand Technology, Volume29,Issue8s, 2020.

31. S. Vidhyalakshmi, T. Mahalakshmi, M.A. Gopalan, “ On sequences of Diophantine 3-TuplesGeneratedThroughThePair(9,2)eachwithpropertyD(-2),D(-9),D(-14),D(-17)”,InternationalJournalofScientificResearch,Volume5, Issue3,July 2020.

32. S. Vidhyalakshmi, T. Mahalakshmi, M.A. Gopalan, “ Formulation of Sequences ofDiophantine3-Tuplesthroughthepair(3,6)”,EPRA-InternationalJournalofMultidisciplinaryResearch (IJMR), Volume6,Issue7,July 2020.

33. K.Meena,S.Vidhyalakshmi,T.Mahalakshmi,M.A.Gopalan,” on the family of Hyperbola ”,
European Journal of Molecular & Clinical Medicine , Volume 7, Issue 8, 2020.
34. S.Vidhyalakshmi,T.Mahalakshmi,M.A.Gopalan,”OnTheTranscendentalEquation “,
International Research Journal of Modernization in Engineering Technology and Science,
Volume 02, Issue 08, August 2020.
35. S.Vidhyalakshmi,T.Mahalakshmi,M.A.Gopalan,”
CubicDiophantineEquationwithFourUnknowns $x^3-y^3=4(w^3-z^3)+3(x-y)^3$ ”,
InternationalJournalofEngineeringAndScience, Volume10, Issue8, August2020.
36. S.Vidhyalakshmi,T.Mahalakshmi,M.A.Gopalan,”ASearchOnTheIntegerSolutions of
Cubic Diophantine Equation with Four
Unknowns $x^2+y^2+435z^2-4-w^2=6xyz$ ”,InternationalJournalofGridandDistributed
Computing, Volume13,No. 2, 2021.
37. S.Vidhyalakshmi,T.Mahalakshmi,M.A.Gopalan,”A Search on Integral solutions to the
Ternary Bi-Quadratic equation ”, Turkish Journal of Computer and Mathematics Education ,
Volume 12,No7, 2021.
38. J.Shanthi,T.Mahalakshmi,S.Vidhyalakshmi,M.A.Gopalan,”A Study On The Pell Like
equation ”, International Journal of all Research Education & Science Methods (IJARESM),
Volume 9, Issue 4, April 2021.
39. J.Shanthi, T.Mahalakshmi, S.Vidhyalakshmi, M.A.Gopalan,”On The Homogeneous cone
“, Turkish Journal of Physiotherapy and Rehabilitation , Volume 32, No. 3, April 2021.
40. S. Vidhyalakshmi, T. Mahalakshmi, M.A. Gopalan,” A Search for Integral solutions to the
Ternary Bi-Quadratic equation ”, Turkish Journal of Computer and Mathematics Education,
Volume 12, No. 7, 2021.
41. Shanthi, J., Mahalakshmi, T., Vidhyalakshmi, S. and Gopalan, M.A., On the Homogeneous
cone ”, Vidhyabharathi International Interdisciplinary Research Journal , Special Issue on
Research Trends iin Management, Science and Technology(August 2021), Pp 2151-2156.
42. Shanthi, J., Mahalakshmi, T., Vidhyalakshmi, S. and Gopalan, M.A., A study on the pell-like
equation , Vidyabharati International Interdisciplinary Research Journal, Special Issue on
Recent Research Trends in Management, Science and Technology (August 2021), Pp. 2137-
2144.
43. Vidhyalakshmi, S., Mahalakshmi, T., Anbuvali, V. and Gopalan, M.A.,

44. T. Mahalakshmi, E. Shalini, On the positive pell equation, International journal of Research Publication and Reviews, Volume 4, Issue 1, 2023.
45. T. Mahalakshmi, P. Sowmiya, A Search on integer solutuions to the homogeneous quadratic equation with three unknowns International journal of Research Publication and Reviews, Volume 4, Issue 1, 2023.
46. T.Mahalakshmi, J.Shanthi,” Observation on the Non-Homogeneous Binary Quadratic Diophantine equation ”, International Journal of Research Publication and Reviews, Vol.5, No.2,PP 2537-2547,Feb 2024.
47. T.Mahalakshmi, J.Shanthi,” Observation on the Non-Homogeneous Binary Quadratic Diophantine equation ”, International Journal of Research Publication and Reviews, Vol.5, No.2,PP 2623-2632,Feb 2024.
48. T.Mahalakshmi, “ Observation on the Homogeneous Binary Quadratic equation :, International Journal of Research Publication and Reviews, Vol.5, no.10, PP 4022-4029, October 2024.
49. T. Mahalakshmi, “ Observation on the Non-Homogeneous Binary Quadratic equation ”, International Research Journal of Modernization in Engineering Technology and Science, Volume:06, Issue:10, PP 3198-3204, October 2024.

Participation in Conference

1. Participated and presented a paper “On finding integer solutions to the homogeneous ternary Quadratic Diophantine equation $3(X^2 + Y^2) - 5XY = 15Z^2$ ”, in the international conference on “ Pure and Applied Mathematical Science”, organized by PG & Research Department of Mathematics, Shrimati Indira Gandhi College, Trichy, on 15th February 2023.
2. Participated and presented a paper “ Observation on the positive pell equation $X^2 = 42Y^2 + 28$ ”, in the international conference on “ Pure and Applied Mathematical Science”, organized by PG & Research Department of Mathematics, Shrimati Indira Gandhi College, Trichy, on 15th February 2023.
3. Participated and presented a paper “ On the positive pell equation $y^2=80x^2+41$, in the international conference on “ Interdisciplinary Approaches in Mathematics and Physical Sciences”, organized by PG & Research Department of Mathematics, Department of

Physics and Department of Chemistry, Shrimati Indira Gandhi College, Trichy, on 20.09.2023.

4. Participated & presented a paper “ Observation on the Non-Homogeneous second degree equation $3x^2 - 2y^2 = 4$, One day International conference on Emerging Trends in Mathematics and Physics Sciences”, Organized by PG & Research Department of Mathematics & Department of Physics, Shrimati Indira Gandhi College, Trichy, on 24.09.2024.
5. Participated & presented a paper “ Observation on the Non-Homogeneous Binary Quadratic equation $5x^2 - 3y^2 = 18$, One day International conference on Emerging Trends in Mathematics and Physics Sciences”, Organized by PG & Research Department of Mathematics & Department of Physics, Shrimati Indira Gandhi College, Trichy, on 24.09.2024.

FDP:

1. Participated in the FDP on National Intellectual property Awareness Mission organized by Government of India, Ministry of Commerce & Industry, Department for Promotion of Industry & Intunal Trade office of the controller general of patents, designs & trade marks on April 26th 2023.
2. Participated in the FDP on NEP 2020 Orientation & sensitization Programme under Malaviya Mission teacher training programme (MM-TTP) of (UGC) organized by UGC-Malaviya Mission Teacher Training centre (U*GC-MMTTC), BDU, Trichirappalli, Tamilnadu from 22.01.2024 to 31.01.2024.
3. Participated in the FDP on Redefining Research Skills, Enriching Research & Publications organized by Research and Development at Shrimati Indira Gandhi College from 1st April 2024 to 5th April 2024.
4. Participated in the FDP on Understanding Outcome Based Education organized by Internal Quality Assurance cell of Shrimati INdira Gandhi College, Tiruchirappalli-2 from 10.06.2024 to 15.06.2024 & 18.06.2024.

WORKSHOP:

- Attended the **ScilabWorkshop** on 4th May 2019, organized by National Institute Of Technology, Trichy.

Book Publications

1. S. Vidhyalakshmi, J. Shanthi, T. Mahalakshmi, M.A. Gopalan, A Collection Of Sequences Of Dio 3-Tuples, RIP-publishing, 978-93-8911-6-49-6.
2. J. Shanthi, T. Mahalakshmi, S. Vidhyalakshmi, M.A. Gopalan, “ A Collection of Problems on Homogeneous cones (Eqn's & Soln's) , RIP- Research India Publication, 2023, ISBN.NO: 978-93-92437-34-2.

BOOK CHAPTER:

1. J. Shanthi, T. Mahalakshmi, M.A. Gopalan, Construction of Sequences of Diophantine 3- Tuples through the Pair (9,2), AKINIK Publications, 978-93-90322-73-2.
2. S. Vidhyalakshmi, T. Mahalakshmi, M.A. Gopalan, Special Characterization of Pythagorean Triangles in Connection with Trimorphic Numbers, AKINIK Publications, 978-93-90322-73-2.
3. T. Mahalakshmi, S. Vidhyalakshmi, M.A. Gopalan, “ Observation on Non-homogeneous Bi-Quadratic with Four unknowns $10xy + 7z^2 = 7w^4$ ”, Global Edu-Conclave 2024. 5 September 2024. Vol. 1, September 2024. ISBN No: 978-81-967563-2-1.